

IN THE CLAIMS

- 1 (Currently Amended). A method comprising:
forming a base contact in a semiconductor structure;
covering said semiconductor structure with a layer;
forming an electrical connection through said layer to said contact; ~~and~~
depositing an insulator within said electrical connection; and
forming a phase-change material over said layer, said material electrically coupled to said contact through said connection.
- 2 (Original). The method of claim 1 wherein covering said semiconductor structure with a layer includes covering said structure with at least one insulating layer.
- 3 (Original). The method of claim 2 including forming a passage through said insulating layer.
- 4 (Original). The method of claim 3 including forming the electrical connection through said passage.
- 5 (Original). The method of claim 4 wherein forming an electrical connection includes forming a cup-shaped electrical connection.
- 6 (Original). The method of claim 5 including filling said cup-shaped electrical connection with an insulator.
- 7 (Original). The method of claim 6 including forming a lower electrode coupled to said cup-shaped connection.
- 8 (Original). The method of claim 7 including forming a cup-shaped lower electrode.

9 (Original). The method of claim 8 including forming a sidewall spacer in said cup-shaped lower electrode.

10 (Original). The method of claim 9 wherein forming a phase-change material includes depositing a phase-change material over said insulating layer and said spacer and electrically contacting said lower electrode.

Claims 11-30 (Canceled).

31 (New). A method comprising:
forming a base contact in a semiconductor structure;
covering said semiconductor structure with an insulating layer;
forming an opening through said insulating layer;
forming a cup-shaped electrical connection through said insulating layer to said contact;
depositing an insulating material in said cup-shaped electrical connection; and
forming a phase-change material over said layer and over said insulator in said cup-shaped contact, said phase-change material electrically coupled to said contact by said connection.

32 (New). The method of claim 31 including filling said cup-shaped electrical connection with an insulator.

33 (New). The method of claim 32 including forming a lower electrode coupled to said cup-shaped electrical connection.

34 (New). The method of claim 33 including forming a cup-shaped lower electrode.

35 (New). The method of claim 34 including forming a sidewall spacer in said cup-shaped lower electrode.

36 (New). The method of claim 35 including forming a phase-change material by depositing a phase-change material over said insulating layer and said spacer and electrically contacting said lower electrode.

37 (New). A method comprising:
forming a base contact in a semiconductor structure;
covering said semiconductor structure with a layer;
forming a first cup-shaped electrical connection through said layer to said contact;
forming a second cup-shaped connection layer over said first cup-shaped connection layer and an electrical communication therewith; and
forming a phase-change material over said second cup-shaped electrical connection layer, said phase-change material electrically coupled to said base contact by said first and second cup-shaped electrical connection layers.

38 (New). The method of claim 37 including filling said first cup-shaped electrical connection with an insulator.

39 (New). The method of claim 38 including forming a sidewall spacer in said second cup-shaped electrical connection.

40 (New). The method of claim 39 including forming a phase change material by depositing a phase-change material over said insulating layer and said spacer.